

**U. S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION**

1. PROJECT TITLE/PARTICIPANT Environmental Management/Paducah Remediation Services, LLC (PRS)		2. DATE 06/29/07	3. IDENTIFICATION SITE Paducah Project DOE Portsmouth/Paducah Project Office (PPPO)
4. WBS ELEMENT CODE 04.12.02.03		5. WBS ELEMENT TITLE Outyear Landfill Operations	
6. INDEX LINE NO. N/A	7. REVISION NO. AND AUTHORIZATION Rev. 0		8. DATE 06/29/07
9. APPROVED CHANGES N/A			
10. SYSTEM DESIGN DESCRIPTION N/A		11. BUDGET AND REPORTING NUMBER N/A	
12. ELEMENT TASK DESCRIPTION THIS IS A PLANNING LEVEL WBS DICTIONARY <u>WBS STRUCTURE</u> <p>The Scope of this Element includes the following Subelements.</p> <ul style="list-style-type: none"> • WBS 04.12.02.03.01 Landfill Operations Subproject Management • WBS 04.12.02.03.02 Disposal Activities • WBS 04.12.02.03.03 Operate Gardian Assay System <u>INTRODUCTION</u> <ul style="list-style-type: none"> • To provide project management, task and baseline planning, project controls, oversight of subcontractors, and technical support for Paducah Waste Operation activities. • To operate the Paducah C-746-U Solid Waste Contained Landfill in compliance with Kentucky regulations. • To maintain two inactive landfills, C-746-S&T, in compliance with Kentucky regulations. • Discharge C-746-U&S leachate at an approved wastewater treatment facility. • Operate Gardian System to nondestructive assay (NDA) waste containers. <u>LOGIC RELATIONSHIPS</u> Interfaces: <u>Internal:</u> <ul style="list-style-type: none"> • All contractor project managers and staff • All subcontractors <u>External:</u> <ul style="list-style-type: none"> • U.S. Department of Energy (DOE) Portsmouth/Paducah Project Office and support contractors • DOE Headquarters or other DOE sites (if applicable) • U.S. Environmental Protection Agency (EPA) • Commonwealth of Kentucky (KY) • Site tenants including United States Enrichment Corporation (USEC); Uranium Disposition Services, LLC; and Swift and Staley Team (SST) • USEC services in the area of property, information technology, radios, etc. • SST, particularly in the areas of property management, information technology, and security. • Stakeholders • Citizens Advisory Board and supporting contractor EHI. 			

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<ul style="list-style-type: none">• DOE Integrated Safety Management System (ISMS) Verification Team• Other nonregulatory key interfaces		
Time Sequencing with Other Work: <ul style="list-style-type: none">• All activities must be complete prior to 09/30/19.• Integrate waste packaging and transportation with waste generation to assure waste generator services focus on keeping newly generated waste moving off-site rather than into storage.• Coordinate waste disposition services with newly generated waste generator services to ensure that the C-746-U Landfill meets landfill air space, void fill material, and cover requirements specified in the landfill operations permit.• The Landfill will be expanded as needed to provide sufficient disposal capacity for Paducah Gaseous Diffusion Plant (PGDP) waste generators.		
<u>SCOPE DESCRIPTION</u>		
<p>Process knowledge, existing sample data, additional sampling, and field screening methods will be used to characterize the waste for final disposition. Waste containers will be opened, visually inspected, decanted, prohibited articles removed, and void filled as necessary to meet the waste acceptance criteria (WAC) and permit requirements of the C-746-U Landfill.</p>		
WBS 04.12.02.03.01 Landfill Operations Subproject Management <p>Provide overall management activities associated with this subproject. Activities performed under this subelement include the following:</p> <ul style="list-style-type: none">• Perform technical, contractual, and project functions necessary to effectively manage and report scope, schedule, and budget.• Maintain all activities within the defined safety, environmental, and quality requirements.• Perform technical and personnel management functions.• Maintain technically qualified and properly trained personnel.• Develop, evaluate, and report project performance metrics.• Interface with DOE, KY, EPA, other prime contractors, and stakeholders, as needed.		
WBS 04.12.02.03.02 Disposal Activities <ul style="list-style-type: none">• Operate the three landfills (C-746-U, C-746-S, and C-746-T) in accordance with Kentucky regulations, closure and post-closure requirements, and the operation permit, to include, but not limited to, the following:<ul style="list-style-type: none">◦ Accept generated waste from the site (including the Infrastructure contractor) that meets the requirements of the landfill permit and WAC.◦ Receive PGDP generated waste compliant with the approved waste package and WAC.◦ Place waste in the daily work face, cover, and compact with a minimum of 6 inches of on-site cover materials.◦ Areas of the landfill not currently being used for disposal will be covered with an additional 12 inches of compacted material and graded to drain run-on.◦ Operate and maintain the leachate collection systems at C-746-U and C-746-S, either by discharging at the USEC wastewater treatment facility or the on-site leachate treatment facility.◦ Sample and analyze the leachate as necessary.• Operate the C-746-U on-site leachate treatment facility according to Kentucky operations permit and Kentucky regulations.• Maintain equipment and facilities.• Perform maintenance to include repairs to fences, signs, soil cover, concrete cracks, erosion and		

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sediment controls, mowing and grubbing, and restoration of essential facility utilities, as necessary, based on periodic inspections.		
WBS 04.12.02.03.03 Gardian System Operations and Maintenance <ul style="list-style-type: none">• Lease costs for the Gardian System• Operate the bulk assay Gardian system.		
<u>DELIVERABLES</u>		
WBS 04.12.02.03.01 Landfill Operations Subproject Management		
<u>Element Milestones:</u> <ul style="list-style-type: none">• None		
<u>Element Deliverables:</u> <ul style="list-style-type: none">• Provide input to the following reports and submittals (if applicable):<ul style="list-style-type: none">○ Monthly Project Performance Report○ Risk Management Plan Updates○ Site Management Plan (SMP)○ Solid Waste Management Unit (SWMU) Assessment Report○ Semiannual Critical Analysis Report○ Presentations○ Federal Facility Agreement (FFA) briefings○ Labor determinations○ Gold Chart Performance Metrics○ Annual updates to Site Treatment Plan○ Annual Compliance Agreement Report○ Annual ISMS Update○ Annual Work Smart Standards Update○ Financial Reporting, Management Analysis Reporting System○ Annual Statement of Costs Incurred and Claimed○ Monthly Commitment Reports○ FFA Semiannual Progress Report○ Remedial Action/Regulatory Commitment Tracking Report○ Other reports/documents, as necessary		
WBS 04.12.02.03.02 Disposal Activities		
<u>Element Milestones:</u> <ul style="list-style-type: none">• Begin Operations in Phases 6/7 – To Be Determined		
<u>Element Deliverables:</u> <ul style="list-style-type: none">• C-746-U Landfill Quarterly Operating Report		
WBS 04.12.02.03.03 Gardian System Operations and Maintenance		
<u>Element Milestones:</u> <ul style="list-style-type: none">• None identified		
<u>Element Deliverables:</u> <ul style="list-style-type: none">• Gardian System Monthly Operations Report• Gardian System Monthly Waste Assay Report		

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<u>REQUIREMENTS</u>		
<ul style="list-style-type: none">• CERCLA/National Contingency Plan• KY Hazardous Waste Permit (KY8-890-008-982)• FFA for the PGDP• SMP for PGDP (annual revisions)• Applicable state and federal laws and regulations (applicable or relevant and appropriate requirements)• Contractor ISMS• UEO-1066, as updated Lease Agreement between DOE and USEC, Revision 4, dated October 30, 2001• Enclosure to GDP 95-0018, as updated, USEC and DOE Resolution of Shared Site Issues, Revision 1, dated March 30, 1998• Applicable PRS plans, policies, and procedures.• WAC for all applicable treatment and disposal facilities that were in effect on April 24, 2006.• Applicable DOE Orders• Applicable Federal Acquisition Regulations		
<p>It is the core value of the Contractor that the safety and health of every worker, the public at large, and our environment are the most important assets that we are entrusted to protect. To accomplish this, an ISMS, based on DOE's ISMS, has been implemented that incorporates the five core functions and is based on the seven guiding principles. The objective of ISMS is to systematically integrate safety and environmental protection into the planning and execution of all work activities. The term safety encompasses Nuclear Safety, Industrial Safety, Industrial Hygiene, Occupational Health, Health Physics, and environmental issues. ISMS requirements flow-down to Contractor's subcontractors. The five core functions are (1) define the scope of work, (2) analyze hazards, (3) develop and implement hazard controls, (4) perform work within controls, and (5) provide feedback and continuous improvement. The seven guiding principles are (1) line management responsibility for safety, (2) clear roles and responsibilities, (3) competence commensurate with responsibility, (4) balanced priorities, (5) identification of safety standards and requirements, (6) hazard control tailored to work being performed, and (7) operations authorization.</p>		
<p>Before a subproject begins, several activities must be completed that demonstrate that all involved in the project have completed rigorous health and safety reviews and that all potential hazards of doing the work have been identified. The routine activities in remedial actions are conducted in accordance with standard operating procedures, activity hazard analyses, and Integrated Safety Management plans. Nonroutine work will require a readiness assessment, as necessary, to ensure complete health, safety, and environmental reviews prior to work start. This assessment is conducted by people experienced in similar kinds of work with the right to examine all aspects of a project about to commence and requires that the project team provide documented evidence that any applicable requirements of the job have been met.</p>		
<u>SCOPE ASSUMPTIONS</u>		
<p>Disposition will be based on material characterization data with preference to on-site disposition at C-746-U Landfill for all materials meeting the landfill WAC.</p>		
<u>RISK MANAGEMENT</u>		
<p>See Risk Management Plan.</p>		

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CERCLA AREAS AND SWMU

None

BASIS OF ESTIMATE

1. Summary of Site Conditions
The Paducah Site has one 60-acre RCRA Subtitle D landfill that currently is operational and is designated as the C-746-U Landfill. The landfill WAC prohibits the disposal of classified, hazardous, or LLW; however, waste with nearly nondetectable radioactive material within the authorized limits may be disposed in the C-746-U Landfill. The landfill has a final design capacity to accept 1.5 million m³ of waste and currently contains 50,000 m³. A new on-site leachate treatment facility was not operational on April 24, 2006, but is undergoing final testing. A seismic investigation of site-specific soil column effects on ground motion has been developed and is undergoing review, and must be approved by the regulators before construction of Cells 6–23.

2. Estimating Methods
☐ Parametric ☐ Bottom-Up ☒ Other: Bottom-up/Parametric

3. Sources of Estimating
Resources and quantities of materials were developed based on knowledge of the scope derived from review of the RFP and supporting technical documents and on the experience and professional judgment of the assigned estimator.
Labor – Estimated level of effort for skilled labor, professional, and management resource staffing is based on Contractor and EnergySolutions (major subcontractor) experience on similar projects including Fluor Fernald Waste Management, Idaho Falls Waste Management, and Hanford Waste Management.

Equipment – Vendor quotes, National Alliance contracts, and Construction Industry Blue Book [fuel, oil, gas and maintenance (FOGM) allowance]

Materials – Vendor quotes or National Alliance contracts

Other Direct Cost – Vendor quotes or National Alliance contracts

Transportation – Direct vendor quotes

Subcontracts – Subcontractor cost proposal or existing DOE contract pricing

4. Basis of Estimate

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WASTE VOLUMES

See attached waste performance metrics, as applicable.

PROJECT SCHEDULE

See attached schedule.

BASELINE BY YEAR

See attached Baseline by Year Report.